Impaired Waters – High Priority

Issue Statement: Lakes and streams within the Bassett Creek watershed do not meet State water quality standards and many are listed as impaired for aquatic life function and recreational due to pollutants such as nutrients, chloride, bacteria, and other stressors.

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; red = watershed-wide practice)	Notes/Timeframe/ Discussion Items
Water quality in priority waterbodies meets applicable State water quality standards	Achieve State eutrophication standards in Medicine Lake	 Assess TMDL implementation status and existing conditions Manage curly-leaf pondweed in Medicine Lake Perform alum treatment to manage sediment TP load Implement stormwater treatment projects in tributary subwatersheds Provide education to lake homeowners including shoreland restoration workshops Encourage/fund buffers on private lakeshore property Monitor Medicine Lake WQ Enforce development and redevelopment standards (watershed-wide) 	-
	Improve water quality in priority lakes not meeting State eutrophication standards: - Northwood Lake - Lost Lake	 Perform subwatershed analyses for Lost and Northwood Lakes (or cooperate on TMDL) Implement stormwater treatment projects in tributary subwatersheds Provide education to lake homeowners including shoreland restoration workshops Encourage/fund buffers on private lakeshore property Monitor WQ of priority waterbodies Enforce development and redevelopment standards (watershed-wide) 	_

Impaired Waters – High Priority

Issue Statement: Lakes and streams within the Bassett Creek watershed do not meet State water quality standards and many are listed as impaired for aquatic life function and recreational due to pollutants such as nutrients, chloride, bacteria, and other stressors.

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; red = watershed-wide practice)	Notes/Timeframe/ Discussion Items	
	 Maintain or improve water quality in priority lakes currently meeting State eutrophication standards: Cavanaugh Pond, Crane Lake, Parkers Lake, Sweeney Lake, Twin Lake, Westwood Lake, Wirth Lake, 	 Monitor WQ of priority waterbodies Cooperate on any future TMDLs Enforce development and redevelopment standards (watershed-wide) Education and outreach to watershed residents 	-	
	Reduce bacterial loading to Plymouth Creek, Sweeney Branch, and the North Branch of Bassett Creek	 Install signage regarding pet waste and other best practices to reduce bacterial loading Implement projects to improve shoreline integrity along priority streams (indirect benefit) Watershed outlet (WOMP) monitoring Education and outreach to watershed residents 	 Check Bacteria TMDL for other implementation ideas 	
	Maintain total phosphorus loading to the Mississippi River of 0.35 lb/acre/year or less	 Implement watershed stormwater treatment projects Watershed outlet (WOMP) monitoring Enforce development and redevelopment standards (watershed-wide) 	-	

Impaired Waters – High Priority

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Desired Future	Goal (10-year)	Strategy, Action, or Task (some potential examples;	Notes/Timeframe/
Condition		red = watershed-wide practice)	Discussion Items
Condition Maintain or impr	Maintain or improve macroinvertebrate indices of biological integrity (M-IBI) in priority streams	 Encourage/fund buffers on private riparian property Implement projects to stabilize degraded riparian areas Continue MIBI monitoring Identify areas/zones where specific stressors are most significant (study?) Incorporate elements to improve in-stream habitat or address stream impairment stressors on all stream-focused BCWMC capital improvement projects Enforce development and redevelopment standards (watershed-wide) 	-

Priority Lake	State Std TP (ug/L)	Current Condition TP (ug/L) ¹	State Std Chl a (ug/L)	Current Condition Chl a (ug/L) ¹	State Std Secchi (m)	Current Condition Secchi (m) ¹
Cavanaugh Pond	60	39	20	9.1	1.0	1.8
Crane Lake	60	28	20	7.0	1.0	0.94
Lost Lake	60	95	20	50	1.0	0.8
Medicine Lake ²	40	54	14	30	1.4	1.8
Northwood Lake	60	223	20	72	1.0	0.7
Parkers Lake	40	27	14	11	1.4	2.8
Sweeney Lake ³	40	34	14	14	1.4	1.6
Twin Lake	40	15	14	3.6	1.4	3.5
Westwood Lake	60	32	20	4.9	1.0	1.3
Wirth Lake	40	28	14	8.1	1.4	2.8

Summary of Priority Lake Eutrophication Data vs. State Standards

TP = total phosphorus; Chl a = chlorophyll a; SD = Secchi disc transparency

Red = does not meet standard/goal

(1) Based on summer average data collected 2013-2022

(2) Main basin

(3) North basin

(4) Crane Lake Secchi disc depth is limited due to dense aquatic plant growth impeding travel of the Secchi disc

Chloride Loading – High Priority

Issue Statement: High chloride loading from overuse of winter deicers across the Bassett Creek watershed negatively impacts lake and stream water quality.

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; red = watershed-wide practice)	Notes/Timeframe/ Discussion Items
Priority waterbodies meet applicable State chloride standards	Reduce chloride concentrations in lakes vulnerable to chloride pollution and those not meeting State standards.	 Perform subwatershed analyses for chloride- impaired lakes to identify pollution hotspots and to target implementation Aside from the above, identify waterbodies and/or subwatersheds of greatest risk to chloride pollution or impairment(overlays?) Incentivize/require Smart Salt training Require winter maintenance plans for applicable projects/locations Develop/identify/require(?) design strategies to minimize salt use Update development and redevelopment standards (watershed-wide or select areas?) Develop Plans for priority waterbodies similar to Parkers Lake Chloride Reduction Study Education targeted to private applicators Chloride monitoring 	-
	Reduce average chloride concentrations in Bassett Creek by 10% at the Watershed Outlet Monitoring Program (WOMP) station.	- All action items from goal above	-

Priority Waterbody	State Chronic Std Chloride (mg/L)	State Acute Std Chloride (mg/L)	Current Condition Average Chloride ¹ (mg/L)	Current Condition Maximum Chloride ² (mg/L)	Number of Observations
Cavanaugh Pond	230	860	59	70	12
Crane Lake	230	860	718	820	6
Lost Lake	230	860	31	33	12
Medicine Lake	230	860	162	375	318
Northwood Lake	230	860	104	274	12
Parkers Lake	230	860	257	716	103
Sweeney Lake	230	860	276	371	48
Twin Lake	230	860	117	139	26
Westwood Lake	230	860	81	99	12
Wirth Lake	230	860	200	512	306
Bassett Creek ³	230	860	173	860	266

Summary of Priority Lake Chloride Data vs. State Standards

Red = does not meet standard/goal

(1) Based on all measurements 2013-2022

(2) Based on maximum concentration observed between 2013-2022

(3) As measured at watershed outlet monitoring program (WOMP) location